

Evaluating Adult Lamprey Dam Passage Counting Methodology at Bonneville and The Dalles Dams



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Objectives

- 1) Estimate Pacific lamprey counts at night:
Bonneville and The Dalles
- 2) To determine total escapement past dams
for Pacific lamprey:
Day count + night video count + LPS count

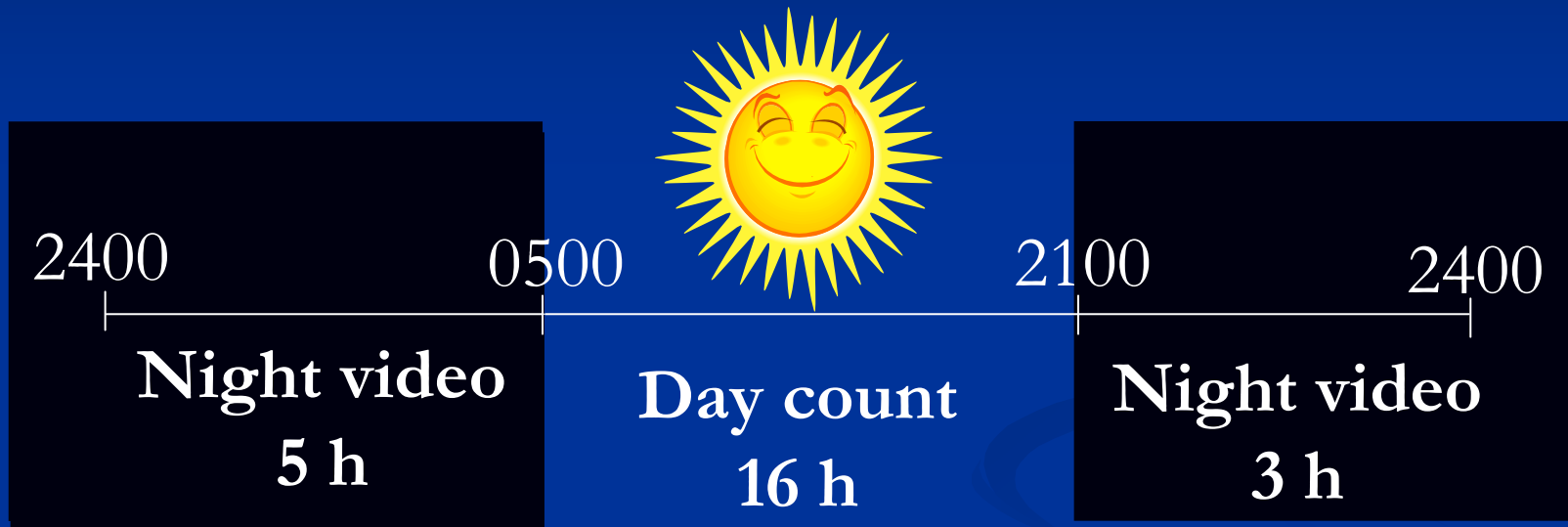
Methods

- Record lamprey passage at count windows
- From 2100 to 0500 hours
- Hard drives downloaded once every 2 weeks
- Video transferred to DVDs
- Video was reviewed and lamprey counts recorded

Equipment Setup



Nighttime Video

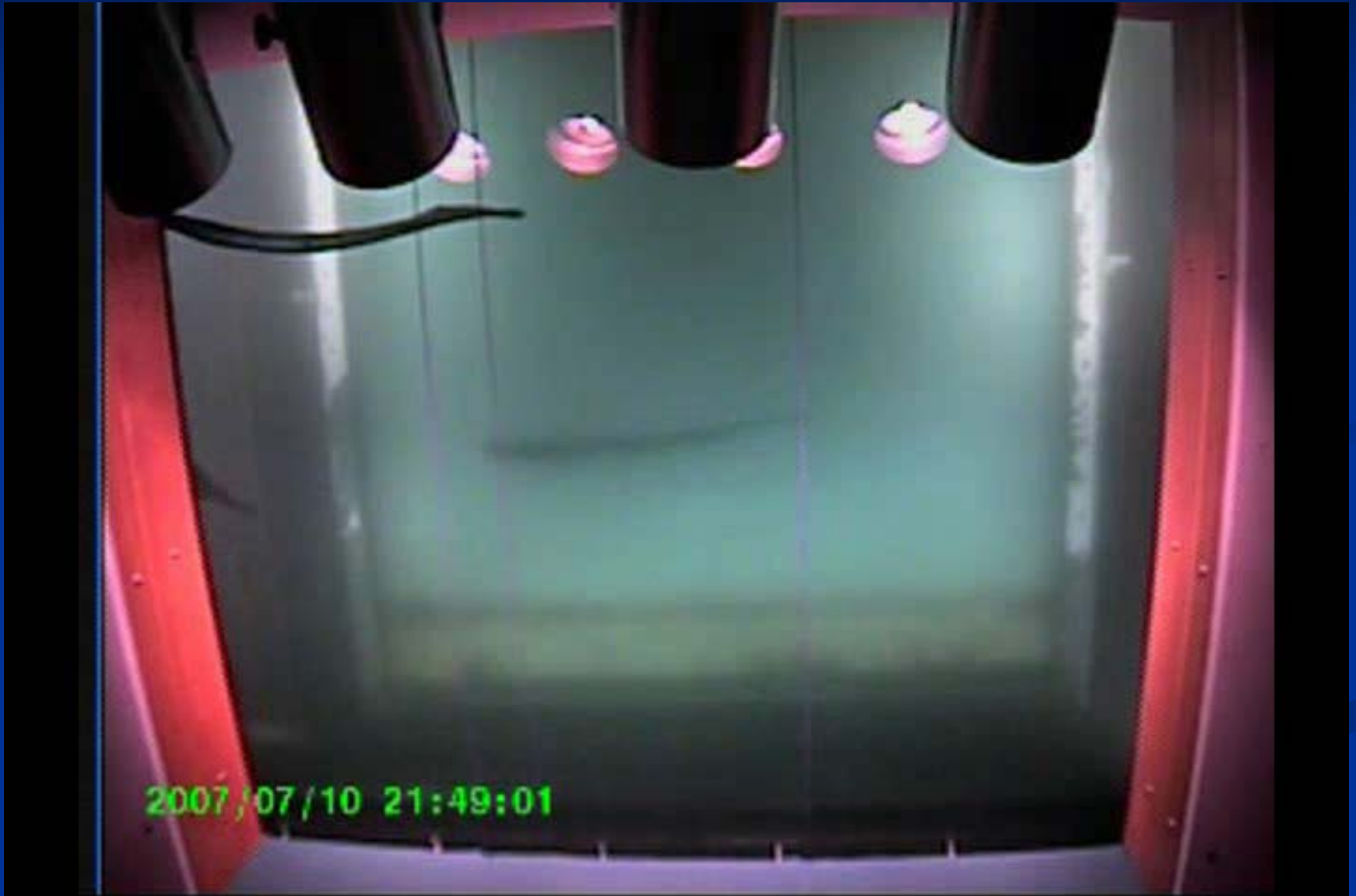


Nighttime Video Summary

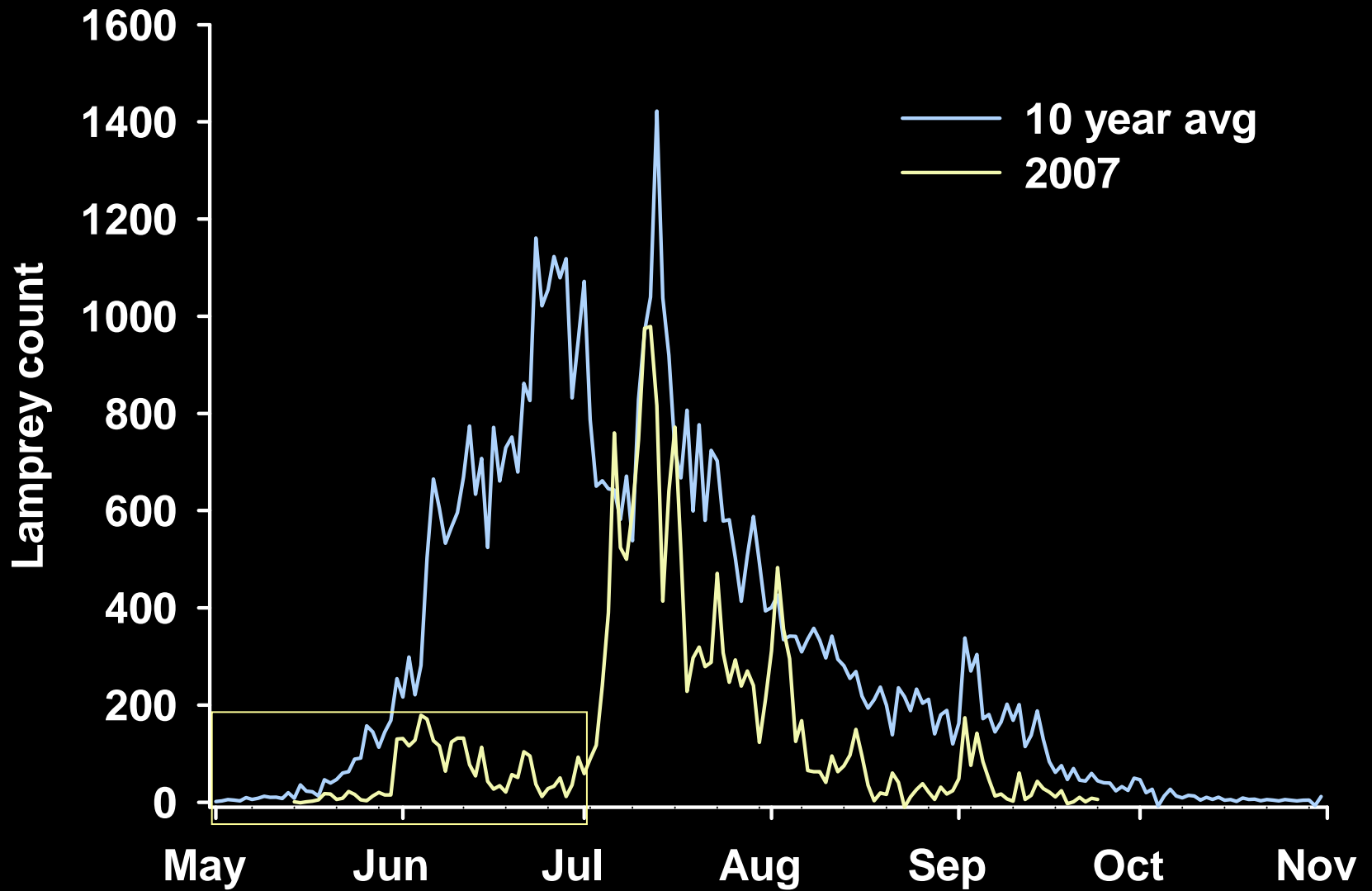
Count Window	Video date range	Nights Recorded	Nighttime Outages	Nights watched
BO Bradford	May 16 – Aug 27	101	2	46 (45%)
BO Washington	May 29 – Sep 6	54	40	20 (40%)
TD North	May 23 – Sep 5	102	1	27 (27%)
TD East	May 23 – Sep 5	102	1	20 (20%)



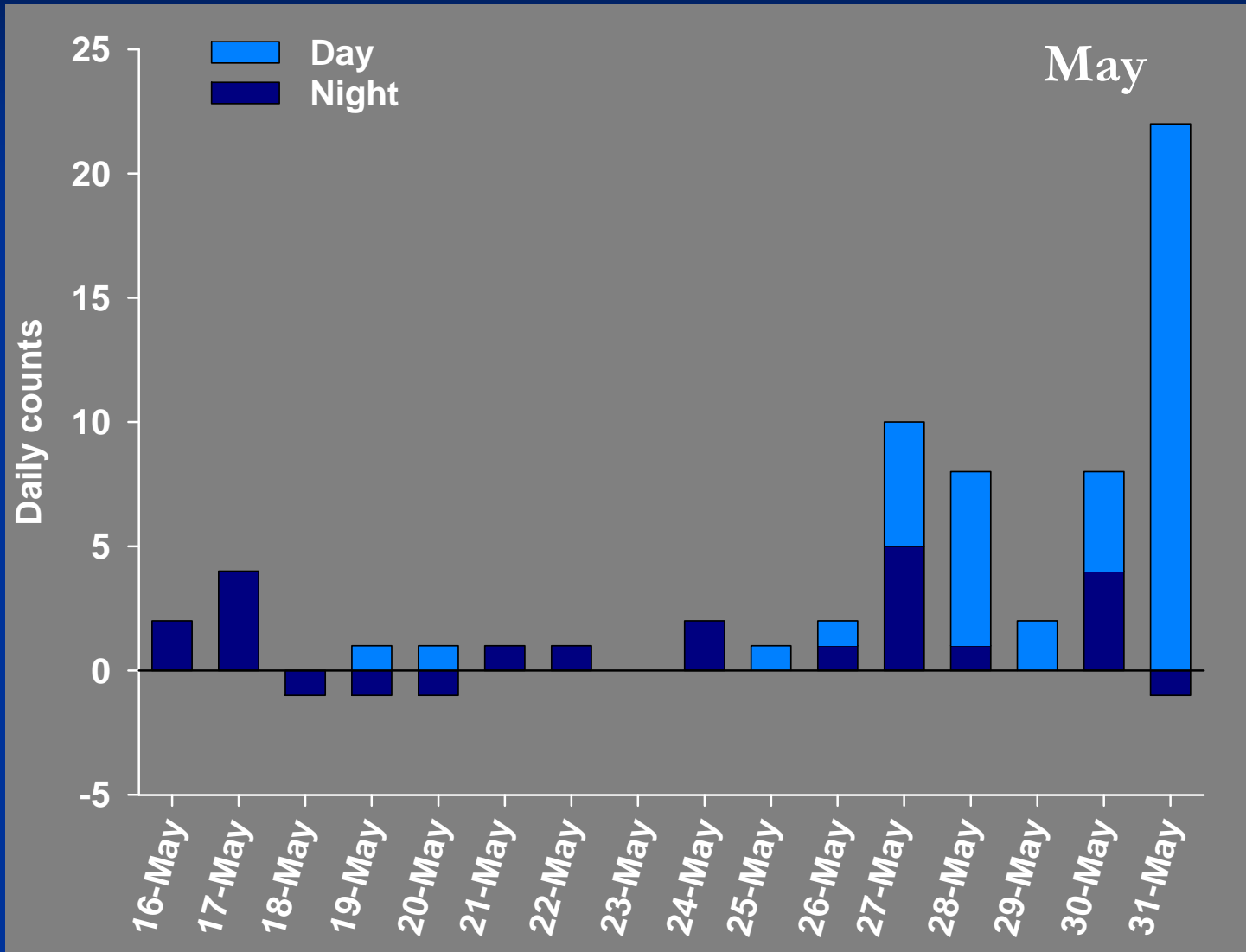
Bradford Island – Bonneville Dam



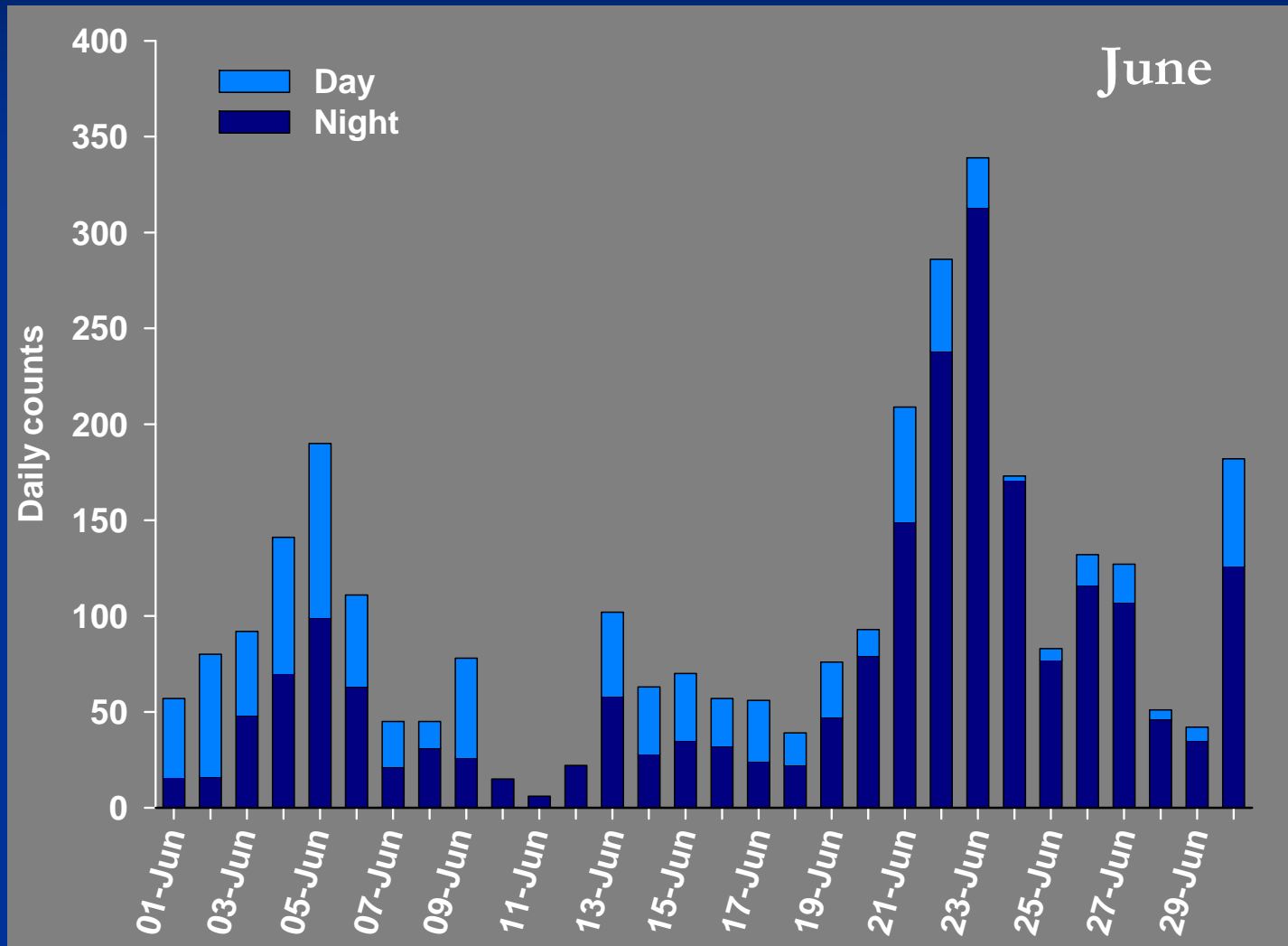
Bonneville Dam



Bradford Island Count Window Lamprey Passage



Bradford Island Count Window Lamprey Passage



Preliminary Results

Count window	May (16-31)			June (1-30)		
	Day	Night	Total	Day	Night	Total
Bradford Island	44	17	61 (28%)	822	2136	3062 (70%)



Bradford Island - Escapement Estimate

May (16-31):

Day count + night video + LPS count

$$44 + 17 + 17 = 78$$

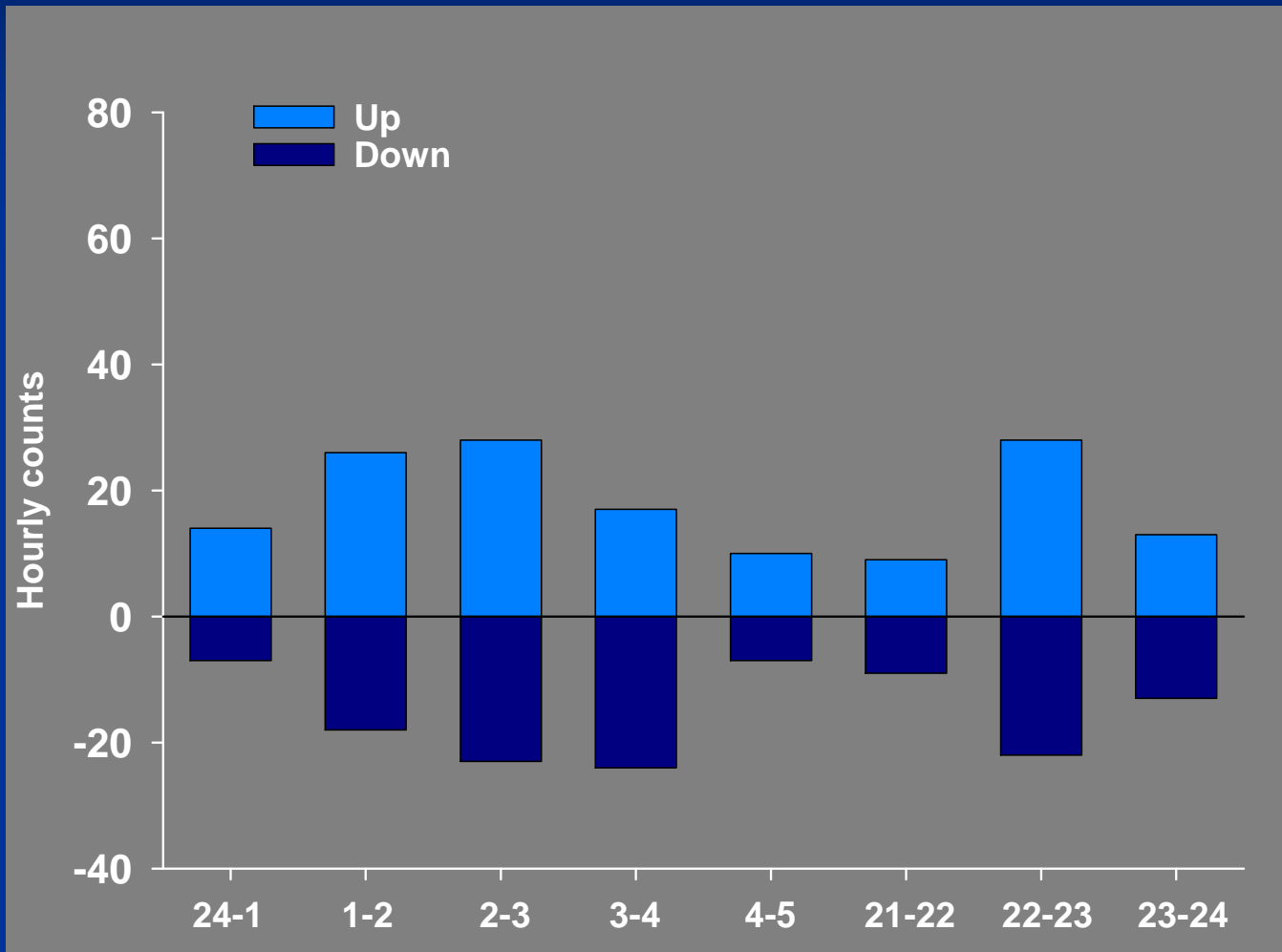
June (1-30):

Day count + night video + LPS count

$$822 + 2136 + 1203 = 4161$$

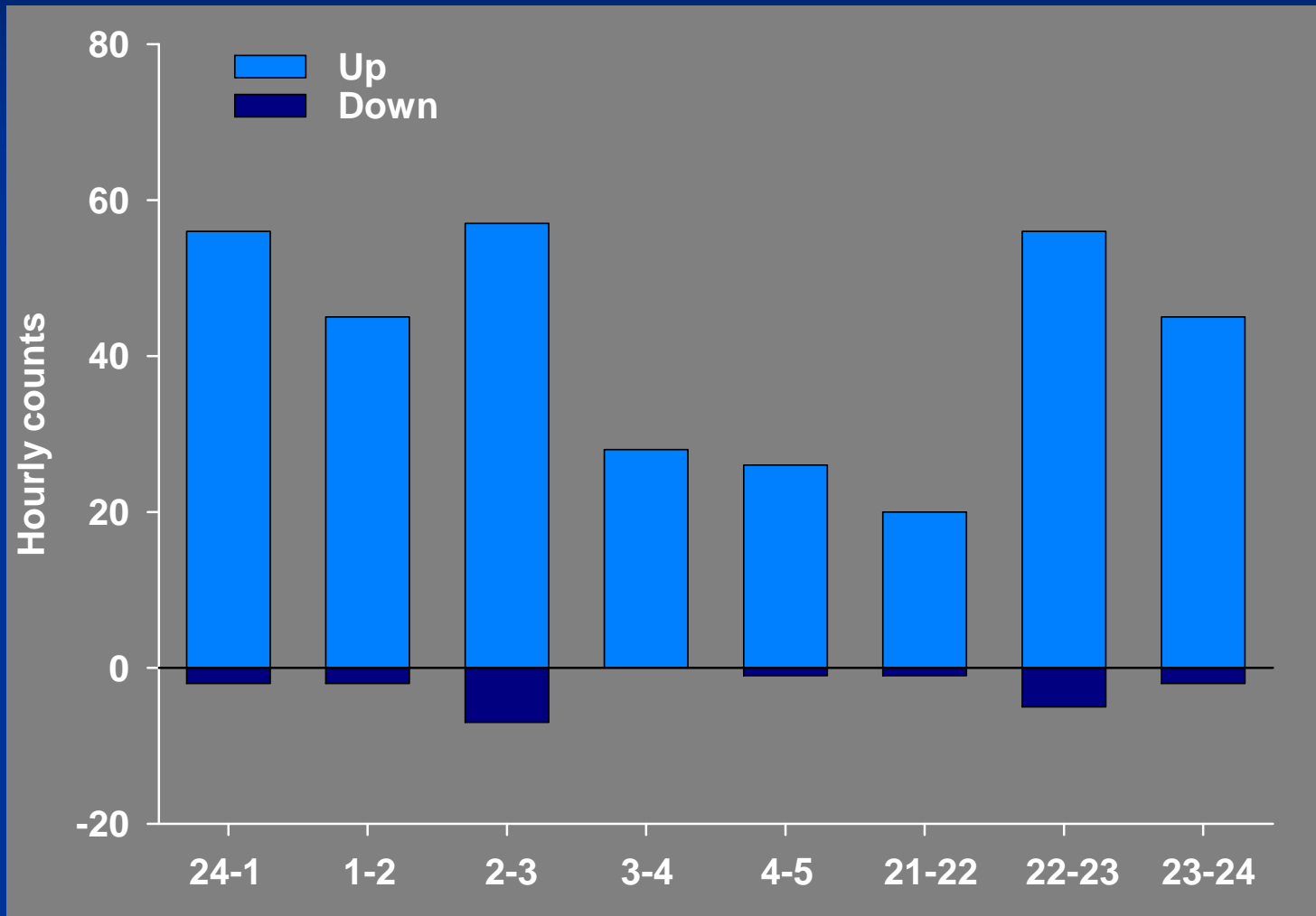
June 12 - Bradford Island

145 Up 123 Down Net 22



June 23 - Bradford Island

333 Up 20 Down Net 313



Lamprey Video Difficulties

- Equipment available on hand was not specifically designed for task
- Outages primarily from loss of power to equipment
- Lighting in the count window/room
- Lip at the bottom of count window
- Archiving data to DVD



Lights on in count window room

Lights off in count window room



05-30-2007 21:43:08

Lamprey



2007/05/30 21:43:08

Preliminary Conclusion

- Nighttime passage can account for a large portion of total dam escapement

Recommended Modifications - 2008

- Improved recording equipment
- Mounting cameras from ceiling
- Improved lighting in count window
- Structural changes – false bottom

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